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FILE 'PASCAL' ENTERED AT 07:39:09 ON 17 APR 2009

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=> antibody(5A)(Neu5Gc or NeuGc)

L1	3	FILE AGRICOLA
L2	24	FILE BIOTECHNO
L3	2	FILE CONFSCI
L4	0	FILE HEALSAFE
L5	22	FILE LIFESCI
L6	12	FILE PASCAL

TOTAL FOR ALL FILES

L7	63	ANTIBODY(5A)(NEU5GC OR NEUGC)
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=> l7 and (tumor or cancer)

L8	1	FILE AGRICOLA
L9	12	FILE BIOTECHNO
L10	0	FILE CONFSCI
L11	0	FILE HEALSAFE
L12	11	FILE LIFESCI
L13	7	FILE PASCAL

TOTAL FOR ALL FILES

L14	31	L7 AND (TUMOR OR CANCER)
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=> dup rem

ENTER L# LIST OR (END):19

PROCESSING COMPLETED FOR L9

L15	12	DUP REM L9 (0 DUPLICATES REMOVED)
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=> d l15 ibib abs total

L15 ANSWER 1 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2003:37271512 BIOTECHNO

TITLE: Human uptake and incorporation of an immunogenic  
nonhuman dietary sialic acid

AUTHOR: Tangvoranuntakul P.; Gagneux P.; Diaz S.; Bardor M.;  
Varki N.; Varki A.; Muchmore E.

CORPORATE SOURCE: A. Varki, Glycobiology Res. and Train. Center,  
Department of Medicine, University of California, San  
Diego, CA 92093-0687, United States.  
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SOURCE: Proceedings of the National Academy of Sciences of the  
United States of America, (14 OCT 2003), 100/21  
(12045-12050), 52 reference(s)  
CODEN: PNASA6 ISSN: 0027-8424

DOCUMENT TYPE: Journal; Article

COUNTRY: United States

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 2003:37271512 BIOTECHNO

AB Humans are genetically unable to produce the sialic acid  
N-glycolylneuraminic acid (Neu5Gc), because of a mutation that occurred  
after our last common ancestor with great apes. Although Neu5Gc is

presumed absent from normal humans, small amounts have been claimed to exist in human tumors and fetal meconium. We have generated an antibody with high specificity and avidity for Neu5Gc. Fetal tissues, normal adult tissues, and breast carcinomas from humans showed reactivity to this antibody, primarily within secretory epithelia and blood vessels. The presence of small amounts of Neu5Gc was confirmed by MS. Absent any known alternate pathway for its synthesis, we reasoned that these small amounts of Neu5Gc might originate from exogenous sources. Indeed, human cells fed with Neu5Gc incorporated it into endogenous glycoproteins. When normal human volunteers ingested Neu5Gc, a portion was absorbed and eliminated in urine, and small quantities were incorporated into newly synthesized glycoproteins. Neu5Gc has never been reported in plants or microbes to our knowledge. We found that Neu5Gc is rare in poultry and fish, common in milk products, and enriched in red meats. Furthermore, normal humans have variable amounts of circulating IgA, IgM, and IgG antibodies against Neu5Gc, with the highest levels comparable to those of the previously known anti- $\alpha$ -galactose xenoreactive antibodies. This finding represents an instance wherein humans absorb and metabolically incorporate a nonhuman dietary component enriched in foods of mammalian origin, even while generating xenoreactive, and potentially autoreactive, antibodies against the same molecule. Potential implications for human diseases are briefly discussed.

L15 ANSWER 2 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
 ACCESSION NUMBER: 2003:36818433 BIOTECHNO  
 TITLE: Effects of buffering conditions and culture pH on production rates and glycosylation of clinical phase I anti-melanoma mouse IgG3 monoclonal antibody R24  
 AUTHOR: Muthing J.; Kemminer S.E.; Conradt H.S.; Sagi D.; Nimtz M.; Karst U.; Peter-Katalinic J.  
 CORPORATE SOURCE: Dr. J. Muthing, Inst. for Med. Phys. and Biophysics, Laboratory for Biomedical Analysis, University of Munster, D-48149 Munster, Germany.  
 E-mail: jm@uni-muenster.de  
 SOURCE: Biotechnology and Bioengineering, (05 AUG 2003), 83/3 (321-334), 88 reference(s)  
 CODEN: BIBIAU ISSN: 0006-3592  
 DOCUMENT TYPE: Journal; Article  
 COUNTRY: United States  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AN 2003:36818433 BIOTECHNO  
 AB R24, a mouse IgG3 monoclonal antibody (MAb) against ganglioside GD3 (Neu5Aca8Neu5Aca3Gal  $\beta$ 4Glc $\beta$ 1Cer), can block tumor growth as reported in a series of clinical trials in patients with metastatic melanoma. The IgG molecule basically contains an asparagine-linked biantennary complex type oligosaccharide on the C.sub.H2 domain of each heavy chain, which is necessary for its in vivo effector function. The purpose of this study was to investigate the biotechnological production and particularly the glycosylation of this clinically important MAb in CO.sub.2/HCO.sub.3.sup.- (pH 7.4, 7.2, and 6.9) and HEPES buffered serum-free medium. Growth, metabolism, and IgG production of hybridoma cells (ATCC HB-8445) were analyzed on a 2-L bioreactor scale using fed-batch mode. Specific growth rates ( $\mu$ ) and MAb production rates (q.sub.I.sub.g.sub.G) varied significantly with maximum product yields at pH 6.9 (q.sub.I.sub.g.sub.G = 42.9  $\mu$ g 10.sup.-.sup.6 cells d.sup.-.sup.1, p = 0.30 d.sup.-.sup.1) and lowest yields in pH 7.4 adjusted batches (q.sub.I.sub.g.sub.G = 10.8  $\mu$ g 10.sup.-.sup.6 cells d.sup.-.sup.1,  $\mu$  = 0.40 d.sup.-.sup.1). N-glycans were structurally characterized by high pH anion exchange chromatography

with pulsed amperometric detection (HPAEC-PAD), matrix-assisted laser desorption ionization time-of-flight (MALDI-TOF), and electrospray-ionization quadrupole time-of-flight (ESI-QTOF) mass spectrometry (MS). The highest relative amounts of agalacto and monogalacto biantennary complex type oligosaccharides were detected in the pH 7.2 (46% and 38%, respectively) and pH 6.9 (44% and 40%, respectively) cultivations and the uppermost quantities of digalacto (fully galactosylated) structures in the pH 7.4 (32%) and the HEPES (26%) buffered fermentation. In the experiments with HEPES buffering, antibodies with a molar Neu5Ac/Neu5Gc ratio of 3.067 were obtained. The fermentations at pH 7.2 and 6.9 resulted in almost equal molar Neu5Ac/Neu5Gc ratios of 1.008 and 0.985, respectively, while the alkaline shift caused a moderate overexpression of Neu5Ac deduced from the Neu5Ac/Neu5Gc quotient of 1.411. Different culture buffering gave rise to altered glycosylation pattern of the MAb R24. Consequently, a detailed molecular characterization of MAb glycosylation is generally recommended as a part of the development of MAbs for targeted in vivo immunotherapy to assure biochemical consistency of product lots and oligosaccharide-dependent biological activity. .COPYRG. 2003 Wiley Periodicals, Inc.

L15 ANSWER 3 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
 ACCESSION NUMBER: 2003:37102752 BIOTECHNO  
 TITLE: Chimeric anti-N-glycolyl-ganglioside and its  
 anti-idiotypic MAbs: Immunodominance of their variable  
 regions  
 AUTHOR: Lopez-Requena A.; De Acosta C.M.; Perez A.; Valle A.;  
 Lombardero J.; Sosa K.; Perez R.; Vazquez A.M.  
 CORPORATE SOURCE: Dr. A.M. Vazquez, Department of Antibody Engineering,  
 Center of Molecular Immunology, P.O. Box 16040, Havana  
 11600, Cuba.  
 E-mail: maruchi@ict.cim.sld.cu  
 SOURCE: Hybridoma and Hybridomics, (2003), 22/4 (235-243), 60  
 reference(s)  
 CODEN: HHYYBF ISSN: 1536-8599  
 DOCUMENT TYPE: Journal; Article  
 COUNTRY: United States  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AN 2003:37102752 BIOTECHNO  
 AB P3 monoclonal antibody (MAb) is a murine IgM that specifically recognizes  
 N-glycolyl (NeuGc)-gangliosides and sulfatides. It also reacts with  
 antigens expressed in human breast tumors and melanoma. In  
 syngeneic model, P3 MAb is able to elicit a strong anti-idiotypic (Ab2)  
 antibody response, even in the absence of adjuvants or carrier proteins.  
 1E10 MAb is an anti-idiotypic antibody specific for P3 MAb that has  
 demonstrated anti-tumoral effects in syngeneic and allogeneic animals.  
 Here we report the construction of the human IgG.sub.1 chimeric P3 and  
 1E10 antibodies, and the evaluation of the maintenance of the main  
 properties of the murine MAbs. Chimeric P3 antibody  
 specifically reacted with GM3(NeuGc) and GM2(NeuGc)  
 gangliosides, and not with their acetylated variants. Also, it strongly  
 recognized the anti-idiotypic 1E10 MAb. Chimeric 1E10 antibody  
 specifically reacted with P3 MAb. Upon immunization of Balb/c mice with  
 both chimeric antibodies, we were able to demonstrate the immunodominance  
 of their variable regions. The anti-idiotypic response induced by both  
 antibodies was strong and in most of the mice was even significantly  
 higher than the anti-isotypic response, despite the fact that 70% of the  
 chimeric molecule is xenogenic with respect to the animal model.

L15 ANSWER 4 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 2003:36579371 BIOTECHNO  
TITLE: Immune responses in breast cancer patients  
immunized with an anti-idiotypic antibody  
mimicking NeuGc-containing gangliosides  
AUTHOR: Diaz A.; Alfonso M.; Alonso R.; Saurez G.; Troche M.;  
Catala M.; Diaz R.M.; Perez R.; Vazquez A.M.  
CORPORATE SOURCE: A.M. Vazquez, Department of Antibody Engineering,  
Center of Molecular Immunology, P.O. Box 16040, Havana  
11600, Cuba.  
E-mail: maruchi@ict.cim.sld.cu  
SOURCE: Clinical Immunology, (01 MAY 2003), 107/2 (80-89), 37  
reference(s)  
CODEN: CLIIFY ISSN: 1521-6616  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United States  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AN 2003:36579371 BIOTECHNO  
AB A phase I clinical trial was conducted in patients with stage III/IV  
breast cancer who were treated with the anti-idiotypic mAb 1E10  
specific to an Ab1 mAb able to react specifically with  
N-glycolyl-containing gangliosides and with antigens expressed on human  
melanoma and breast carcinoma cells. Patients were treated with 1 or 2 mg  
of aluminum hydroxide-precipitated 1E10 mAb every other week for six  
injections. Two patients at each dose were reimmunized 7-9 months after  
completing the induction phase. In hyperimmune sera from eight of the  
nine patients who received at least four doses of anti-Id vaccine  
preparations, strong specific responses were observed both against 1E10  
mAb and NeuGc-GM.sub.3 ganglioside (Ab3 Id.sup.+Ag.sup.+). Nonclassical  
Ab1' antibodies (Id.sup.-Ag.sup.+) were also elicited by 1E10 mAb vaccine  
treatment. There were no differences between the two levels of dose  
tested in relation to toxicity and immunogenicity. No evidence of serious  
or unexpected effects was observed. .COPYRGT. 2003 Elsevier Science  
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L15 ANSWER 5 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
ACCESSION NUMBER: 2002:36575465 BIOTECHNO  
TITLE: In vivo and in vitro anti-tumor effect of  
14F7 monoclonal antibody  
AUTHOR: Carr A.; Mesa C.; Arango M.D.C.; Vazquez A.M.;  
Fernandez L.E.  
CORPORATE SOURCE: Dr. A. Carr, Center of Molecular Immunology, P.O. Box  
16040, Havana 11600, Cuba.  
E-mail: adriana@ict.cim.sld.cu  
SOURCE: Hybridoma and Hybridomics, (2002), 21/6 (463-468), 28  
reference(s)  
CODEN: HHYYBF ISSN: 1536-8599  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United States  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AN 2002:36575465 BIOTECHNO  
AB The 14F7 monoclonal antibody (MAb) is an IgG.sub.1 antibody  
that reacts specifically with GM3 (NeuGc) and with tissue  
sections of human tumors. We demonstrated here that this MAb is  
agglutinin that specifically agglutinated horse erythrocytes.  
Additionally, the capacity of 14F7 MAb to mediate cytotoxicity against  
GM3 (NeuGc)-positive murine myeloma cells, in vitro and in vivo, was  
evaluated. High concentrations of 14F7 MAb were needed to induce  
complement-dependent cytotoxicity (CDC) and antibody-dependent  
cell-mediated cytotoxicity (ADCC) against the murine myeloma cells. The

most relevant finding was the ability of this MAb to directly kill the target cells without participation of complement. This cytotoxicity was dependent on the temperature and MAb concentration and the number of the target cells. In vivo, the passive treatment with 14F7 MAb produced a strong anti-tumor activity, similar to the anti-tumoral response obtained with standard chemotherapy treatment.

L15 ANSWER 6 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
ACCESSION NUMBER: 1998:28331445 BIOTECHNO  
TITLE: Delineation of the epitope recognized by an antibody specific for N- glycolylneuraminic acid-containing gangliosides  
AUTHOR: Moreno E.; Lanne B.; Vazquez A.M.; Kawashima I.; Tai T.; Fernandez L.E.; Karlsson K.-A.; Angstrom J.; Perez R.  
CORPORATE SOURCE: E. Moreno, Center of Molecular Immunology, P.O. Box 16040, Havana 11600, Cuba.  
SOURCE: Glycobiology, (1998), 8/7 (695-705), 44 reference(s)  
CODEN: GLYCE3 ISSN: 0959-6658  
DOCUMENT TYPE: Journal; Article  
COUNTRY: United Kingdom  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AN 1998:28331445 BIOTECHNO  
AB P3 is a mouse monoclonal antibody (mAb) that binds to several NeuGc- containing gangliosides. It also reacts with antigens expressed in human breast tumors (Vazquez et al. (1995) Hybridoma, 14, 551-556). In this work, the binding specificity of P3 has been characterized in more detail using a panel of glycolipids that included several disialylated gangliosides and several chemical derivatives of NeuGc-GM3. The carboxyl group and the nitrogen function of sialic acid were found to play important roles in the antibody binding, whereas the glycerol tail appears to be nonrelevant. Molecular modeling was used to analyze the binding data, including the finding that P3 selectively recognizes the internal NeuGc in GD3. For this purpose, conformational studies of GD3 were performed using molecular dynamics. It was concluded that sialic acid binds the P3 antibody through its upper face (the one on which the carboxyl group is exposed) and the C4-C5 side of the sugar ring, whereas none or very little contact between the galactose residue and the protein is evident. Conformational analysis of GD3 revealed that, despite the large flexibility of the NeuGc $\alpha$ 8NeuGc linkage, the P3 binding epitope on the external sialic acid is not well exposed for any of the possible conformations this linkage can adopt, whereas the internal sialic acid presents the epitope in a proper way for several of these conformations. As a final result, a coherent picture of the epitope that fits the wide binding data was obtained.

L15 ANSWER 7 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
ACCESSION NUMBER: 1998:29024638 BIOTECHNO  
TITLE: Syngeneic anti-idiotypic monoclonal antibodies to an anti-NeuGc- containing ganglioside monoclonal antibody  
AUTHOR: Vazquez A.M.; Perez A.; Hernandez A.M.; Macias A.; Alfonso M.; Bombino G.; Perez R.  
CORPORATE SOURCE: Dr. A.M. Vazquez, Department of Antibody Engineering, Center of Molecular Immunology, P.O. Box 16040, Havana 11600, Cuba.  
SOURCE: Hybridoma, (1998), 17/6 (527-534), 46 reference(s)  
CODEN: HYBRDY ISSN: 0272-457X  
DOCUMENT TYPE: Journal; Article

COUNTRY: United States  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AN 1998:29024638 BIOTECHNO

AB An IgM monoclonal antibody (MAb), named P3, has the characteristic to react specifically with a broad battery of N-glycolyl containing-gangliosides and with antigens expressed on breast tumors. When this MAb was administered alone in syngeneic mice, an specific IgG anti-idiotypic antibody (Ab2) response was induced, this Ab2 response was increased when P3 MAb was injected coupled to a carrier protein and in the presence of Freund's adjuvant. Spleen cells from these mice were used in somatic-cell hybridization experiments, using the murine myeloma cell line P3-X63-Ag8.653 as fusion partner. Five Ab2 MAbs specific to P3 MAb were selected. These IgG1 Ab2 MAbs were able to block the binding of P3 MAb to GM3(NeuGc) ganglioside and to a human breast carcinoma cell line. Cross-blocking experiments demonstrated that these Ab2 MAbs are recognizing the same or very close sites on the Ab1 MAb. The five Ab2 MAbs were injected into syngeneic mice and four of them produced strong anti-anti-idiotypic antibody (Ab3) response. While these Ab2 MAbs were unable to generate Ab3 antibodies with the same antigenic specificity than P3 MAb, three of them induced antibodies bearing P3 MAb idiotopes (Ag-Id+ Ab3). These results demonstrated that these Ab2 MAbs are not 'internal image' antibodies, but they could define 'regulatory idiotopes'.

L15 ANSWER 8 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1995:25160696 BIOTECHNO

TITLE: Production of monoclonal antibodies directed to Hanganutziu-Deicher active gangliosides, N-glycolylneuraminic acid-containing gangliosides  
AUTHOR: Watarai S.; Kushi Y.; Shigeto R.; Misawa N.; Eishi Y.; Handa S.; Yasuda T.

CORPORATE SOURCE: Department of Cell Chemistry, Inst Cellular and Molecular Biology, Okayama University Medical School, Shikata-cho, Okayama 700, Japan.

SOURCE: Journal of Biochemistry, (1995), 117/5 (1062-1069)  
CODEN: JOBIAO ISSN: 0021-924X

DOCUMENT TYPE: Journal; Article

COUNTRY: Japan

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1995:25160696 BIOTECHNO

AB We have established three kinds of monoclonal antibodies against gangliosides containing N-glycolylneuraminic acid (NeuGc) by immunization of BALB/c mice with the purified gangliosides inserted into liposomes comprising Salmonella minnesota R595 lipopolysaccharides, and fusion of spleen cells with a mouse myeloma cell line. One monoclonal antibody, SHS-1, which was generated by immunizing mice with purified i-active ganglioside(NeuGc), reacted specifically with the i-active ganglioside(NeuGc) used as an immunogen. Structurally related gangliosides, such as GM3(NeuGc), sialosylparagloboside (SPG) (NeuGc), or I-active ganglioside(NeuGc), corresponding gangliosides  $\phi$ GM3 containing N-acetylneuraminic acid (NeuAc), SPG(NeuAc), i-active ganglioside(NeuAc), and I-active ganglioside(NeuAc)!, other gangliosides, or neutral glycosphingolipid (GSL) were not recognized by the monoclonal antibody. These findings indicate that the SHS-1 monoclonal antibody may be specific for NeuGc-containing i-active ganglioside. On the other hand, the other two monoclonal antibodies, MSG-1 and SPS-20, which were generated by immunizing mice with purified ganglioside GM3(NeuGc) and SPG(NeuGc), respectively, showed crossreactivity to structurally related gangliosides. The MSG-1

monoclonal antibody exhibited reactivity to ganglioside GM3(NeuAc). The SPS-20 monoclonal antibody also cross-reacted with SPG(NeuAc), i-active ganglioside(NeuGc) and i-active ganglioside(NeuAc). Neither MSG-1 nor SPS-20 reacted with corresponding gangliosides, other gangliosides, or neutral GSLs tested. Using the SHS-1 antibody specific for i-active ganglioside(NeuGc), we studied the expression of NeuGc-containing antigen in human colon cancer tissue. An NeuGc-containing glycoconjugate was detected in the colon cancer tissue.

L15 ANSWER 9 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
ACCESSION NUMBER: 1988:18224743 BIOTECHNO

TITLE: Detection of gangliosides as N-glycolylneuraminic acid-specific tumor-associated Hanganutziu-Deicher antigen in human retinoblastoma cells

AUTHOR: Higashi H.; Sasabe T.; Fukui Y.; Maru M.; Kato S.  
CORPORATE SOURCE: Department of Pathology, Research Institute for Microbial Diseases, Osaka University, Suita, Osaka 565, Japan.

SOURCE: Japanese Journal of Cancer Research, (1988), 79/8 (952-956)  
CODEN: JJCREP ISSN: 0910-5050

DOCUMENT TYPE: Journal; Article

COUNTRY: Japan

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 1988:18224743 BIOTECHNO

AB Gangliosides were shown to bear the tumor-associated N-glycolylneuraminic acid (NeuGc)-specific Hanganutziu-Deicher (HD) antigen expressed in human retinoblastoma cells. HD antigenic gangliosides were detected by thin-layer chromatography/enzyme-immunostaining using affinity-purified chicken antibody against GM3 containing NeuGc and horseradish peroxidase-conjugated anti-chicken IgG. One to four species of the antigenic gangliosides were detected from all of 4 cell lines, Y79, WERI-Rb1, TOTL1, and YK, as well as freshly cultured retinoblastoma cells and isolated tumor tissue. All cases contained GM3(NeuGc) as an HD antigen. No HD antigenic ganglioside was detected in normal retinal tissues by the same procedure.

L15 ANSWER 10 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN  
ACCESSION NUMBER: 1987:17106247 BIOTECHNO

TITLE: Occurrence of tumor-associated ganglioside antigens with Hanganutziu-Deicher antigenic activity on human melanomas

AUTHOR: Hirabayashi Y.; Higashi H.; Kato S.; et al.  
CORPORATE SOURCE: Department of Biochemistry, Shizuoka College of Pharmacy, Shizuoka 422, Japan.

SOURCE: Japanese Journal of Cancer Research, (1987), 78/6 (614-620)  
CODEN: JJCREP

DOCUMENT TYPE: Journal; Article

COUNTRY: Japan

LANGUAGE: English

AN 1987:17106247 BIOTECHNO

AB The specificity of antibody to NeuGc  $\alpha 2$ -3Gal $\beta$ 1-4Glc-cer (GM3(NeuGc)) was carefully reexamined by the method of enzyme-immunostaining on a thin layer plate. The affinity-purified antibody was found to react with NeuGc $\alpha 2$ -8NeuAc $\alpha 2$ -3Gal $\beta$ 1-4Glc-cer

(GD3(NeuGc-NeuGc)) and NeuGca2-8NeuAca2-3Gal $\beta$ 1-4Glc-cer (GD3(NeuGc-NeuAc)), but not with NeuAca2-8NeuGca2-3Gal $\beta$ 1-4Glc-cer (GD3(NeuAc-NeuGc)) or NeuAca2-8NeuAca2-3Gal $\beta$ 1-4Glc-cer (GD3(NeuAc-NeuAc)). From this result together with the previous results, it could be concluded that the antibody recognizes the outer portion of molecular species of sialic acids in the gangliosides. By using this antibody, the expression of Hanganutziu-Deicher (HD) gangliosides could be demonstrated in human malignant melanoma. The molecular species were different among individuals examined. Among HD-antigenic gangliosides, GM3(NeuGc) was commonly found in melanoma tissues. One of the patients examined expressed GD3(NeuGc-NeuGc) and GD3(NeuGc-NeuAc), which may be characteristic gangliosides in human melanomas, since these gangliosides could not be detected in human colon cancer or human fetal tissues.

L15 ANSWER 11 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1987:17051080 BIOTECHNO

TITLE: Specific expression of unusual GM2 ganglioside with Hanganutziu-Deicher antigen activity on human colon cancers

AUTHOR: Hirabayashi Y.; Kasakura H.; Matsumoto M.; et al.

CORPORATE SOURCE: Department of Biochemistry, Shizuoka College of Pharmacy, Oshika, Shizuoka 422, Japan.

SOURCE: Japanese Journal of Cancer Research, (1987), 78/3 (251-260)

CODEN: JJCREP

DOCUMENT TYPE: Journal; Article

COUNTRY: Japan

LANGUAGE: English

AN 1987:17051080 BIOTECHNO

AB This paper reports the presence of GM2 ganglioside containing N-glycolylneuraminic acid (NeuGc) in human colon cancer tissues. GM2(NeuGc) was detected by two-dimensional thin layer chromatography (2d-TLC)/enzyme-immunostaining using affinity-purified chicken antibody against GM3(NeuGc) and horseradish peroxidase-conjugated rabbit anti-chicken IgG antibody. Like usual GM2 ganglioside containing N-acetylneuraminic acid (NeuAc) isolated from Tay-Sachs brain, GM2(NeuGc) in colon cancer could be converted into GM3(NeuGc) by human kidney  $\beta$ -N-acetylhexosaminidase A in the presence of a GM2-specific activator protein isolated from guinea pig kidney. Three of 7 specimens of Hanganutziu-Deicher (HD) antigen-positive human colon cancer tissues so far examined expressed this unique ganglioside. In order to detect and determine specifically GM2(NeuGc) on human colon cancers, specific antibody against GM2(NeuGc) has been prepared by immunizing chickens. By a sensitive TLC/immunostaining method using the antibody, the amounts of the antigen were determined to be 0.3-3% of total lipid-bound sialic acid. NeuGc-containing gangliosides were also detected in meconium and fetal intestinal tissues. Three species of antigenic gangliosides in pooled meconium were tentatively identified as GM3(NeuGc), sialylparagloboside and sialylhexaosylceramide on the basis of their migration positions on 2d-TLC and the results of endo- $\beta$ -galactosidase treatment. GM3(NeuGc) was the sole HD-active ganglioside in fetal intestinal tissue from one of 3 individuals tested; the other two showed no HD-active ganglioside at all. GM2(NeuGc), however, could not be detected in either meconium or fetal tissues so far examined, suggesting that this unique ganglioside is a tumor-specific antigen, at least for human intestinal tissues.

L15 ANSWER 12 OF 12 BIOTECHNO COPYRIGHT 2009 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1985:15226460 BIOTECHNO

TITLE: Characterization of N-glycolylneuraminic acid-containing gangliosides as tumor-associated Hanganutziu-Deicher antigen in human colon cancer  
 AUTHOR: Higashi H.; Hirabayashi Y.; Fukui Y.; et al.  
 CORPORATE SOURCE: Department of Pathology, Research Institute for Microbial Diseases, Osaka University, Suita, Osaka 565, Japan.  
 SOURCE: Cancer Research, (1985), 45/8 (3796-3802)  
 CODEN: CNREA8  
 DOCUMENT TYPE: Journal; Article  
 COUNTRY: United States  
 LANGUAGE: English  
 AN 1985:15226460 BIOTECHNO  
 AB Hanganutziu-Deicher (HD) antigen-active N-glycolylneuraminic acid (NeuGc)-containing gangliosides were isolated and characterized from human colon cancer tissues. The antigenic gangliosides were detected by thin-layer chromatography by our newly developed method of enzyme immunostaining using affinity-purified chicken antibody against hematoside containing NeuGc (II.sup.3NeuGc-LacCer) and horseradish peroxidase-conjugated rabbit anti-chicken IgG. One to six species of the antigenic gangliosides were isolated from seven of 16 cases of colon cancer, whereas no antigenic compound was detected in all apparently normal colorectal tissues from 17 individuals without colorectal cancer. Tissues from different patients showed different patterns of molecular species of the antigenic gangliosides. Densitometric determination indicated that HD antigenic sialic acid, NeuGc, accounted for about 1% or less of the total lipid-bound sialic acids. Four species of antigenic gangliosides were identified as hematoside and hematoside-containing O-acyl ester (II.sup.3NeuGc-LacCer and II.sup.34- or 7-O-acyl-NeuGc-LacCer), GM2-containing NeuGc (II.sup.3NeuGc-GgOse.sub.3Cer), and sialylparagloboside (IV.sup.3NeuGc-nLcOse.sub.4Cer) by their behaviors on 2-dimensional thin-layer chromatography, and the effects of mild alkaline treatment, sialidase treatment, periodate oxidation, and endo- $\beta$ -galactosidase treatment.